APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,777	01/22/2002	Charles David Caldwell	2000-0056	4259

7590 02/10/2005		EXAMINER
Samuel H. Dworetsky		HARPER, V PAUL
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ART UNIT	PAPER NUMBER
2654	

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DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/053,777	CALDWELL ET AL.
	Examiner	Art Unit	
	V. Paul Harper	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *09/04/03*.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1.   The Examiner has considered the references listed in the Information Disclosure

Statement dated 9/02/03.   A copy of the Information Disclosure Statement is attached

to this office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1, 7, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by

Montgomery (UK Patent Application GB 2183880 A), hereinafter referred to as

Montgomery.

Regarding **claim 1**, Montgomery discloses a speech translator for the deaf.

Montgomery's invention includes the following:

• a modem that connects with the network to convey information to, and receive

information from the network (Fig. 6, and Fig. 7, DATA/VOICE LINE INT; Fig. 8);

• a subscriber terminal having an interface that enables communication with the

modem (Figs. 6 and 7. p. 2, lines 93-114, Speech translator for the deaf (STD)

connected to modem),

- a display interface that communicates with a visual display device to display information (p. 1, lines 25-30, STD text is displayed; Fig. 3, item 7),

- a telephone interface that enables communication with a telephone to convey voice information of a user (Figs, 6, 7 and 8), and

- a buffer that receives and stores speech information (Fig. 3, item 5; p. 1, lines 105-111; recognition requires 40 to 150 small parts of speech, inherently requiring buffering); and

- a processor to decode and display on the display device speech information as text upon receipt of speech information from the network (p. 1, lines 105-124; Fig. 3, items 5, 6 and 7; recognizer produces symbolic text which is displayed).

Regarding **claim 7**, Montgomery discloses a speech translator for the deaf. Montgomery's invention includes the following steps:

- Receiving at a broadband telephony interface speech packets destined for the hearing impaired individual (Figs. 6, 7 and 8, DATA/VOICE LINE INT; the connection to the deaf user's home can be over a voice/data lines such as LADT or ISDN [which supports speech packets] with the appropriate interface; p. 2, lines 100-104);

- storing the speech packets in a buffer (Fig. 3, item 5; p. 1, lines 105-111; recognition requires 40 to 150 small parts of speech, inherently requiring buffering); and

- processing the speech packets to display textual representations thereof on a display device (p. 1, lines 105-124; Fig. 3, items 5, 6 and 7; recognizer produces symbolic text which is displayed).

Regarding **claim 12**, Montgomery discloses a speech translator for the deaf.

Montgomery's invention includes the following:

- a network interface that enables communication with the network (p. 2, lines 100-

115; Fig. 8, DATA/VOICE LINE INT);

- a subscriber terminal that communicates information with the network interface a

display device, and a telephone device or other auditory device (Fig, 8, shows terminal

with display and telephone); and

- a processor that decodes and displays speech information as text on the display

device during receipt of real time speech information from the network (p. 1, lines 105-

124; Fig. 3, items 5, 6 and 7; recognizer produces symbolic text which is displayed) and

- encodes and/**or transmits speech information** to the network when speech

information is received from the telephone (Fig. 8; Fig. 3, item 1, MICROPHONE,

TELEPHONE INTERFACE).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 2, 8 and 13, are rejected under 35 U.S.C. 103(a) as being unpatentable

over Montgomery in view of Comerford et al. (U.S. Patent 6,107,935), hereinafter

referred to as Comerford.

        Regarding **claim 2**, Montgomery teaches everything claimed, as applied above

(see claim 1). But Montgomery does not specifically teach the following: "a memory that

stores voice patterns, and wherein said processor further includes a speech analyzer

that recognizes an incoming voice pattern based on information stored in the memory."

However, the examiner contends that this concept was well known in the art, as taught

by Comerford.

        In the same field of endeavor, Comerford discloses a speaker and speech

recognition system. Comerford's system includes a speaker recognition module with

stored voice patterns where a speaker's utterance is compared with existing data (Fig. 1

and 2; col. 3, lines 55-65; col. 4, lines 15-22).

        Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify Montgomery by specifically providing the

features, as taught by Comerford, because it is well known in the art at the time of

invention for the purpose of accurately identifying the speaker of an utterance

(Comerford, col. 1, lines 10-60), which is of particular value to a deaf user.

        Regarding **claim 8**, Montgomery teaches everything claimed, as applied above

(see claim 7). But Montgomery does not specifically teach the following:

a) storing speech patterns in a database, and

b) analyzing and comparing incoming speech obtained by processing the speech

packets with speech patterns stored in the database in order to provide speaker

identification capability. However, the examiner contends that these concepts were well

known in the art, as taught by Comerford.

In the same field of endeavor, Comerford discloses a speaker and speech

recognition system. Comerford's system includes a speaker recognition module with

stored voice patterns where a speaker's utterance is compared with existing data, a)

above (Fig. 1 and 2, stored speech patterns for speakers, created during training, col. 4,

lines 15-25, a), above; col. 3, lines 55-65, speaker identification performed, b), above).

Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify Montgomery by specifically providing the

features, as taught by Comerford, because it is well known in the art at the time of

invention for the purpose of accurately identifying the speaker of an utterance

(Comerford, col. 1, lines 10-60), which is of particular value to a deaf user.

Regarding **claim 13**, Montgomery discloses a speech translator for the deaf.

Montgomery's invention includes the following:

• a subscriber terminal having a network interface that enables communication with a

network (Figs. 6 and 7. p. 2, lines 93-114, Speech translator for the deaf (STD)

connected to modem),

- a display interface that communicates with a visual display device to display textual information (p. 1, lines 25-30, STD text is displayed; Fig. 3, item 7), and

- a telephone interface that enables communication with a telephone to convey voice information of a user (Figs, 6, 7 and 8),,

- said subscriber terminal including a processor utilizing a speech buffer to receive at least one of streamed and real time speech information and to decode and display speech information as text on the display device during receipt of speech information from the network (Fig. 3, items 5, 6 and 7; p. 1, lines 105-124; small parts of speech with inherent buffering converted to symbolic text which is displayed).

But Montgomery does not specifically teach "a database that enables identification of a prior caller based on speech segments stored in a database." However, the examiner contends that this concept was well known in the art, as taught by Comerford.

In the same field of endeavor, Comerford discloses a speaker and speech recognition system. Comerford's system includes a speaker recognition module with a database of stored voice patterns where a speaker's utterance is compared with existing data (Fig. 1 and 2; col. 3, lines 55-65; col. 4, lines 15-22).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Montgomery by specifically providing the features, as taught by Comerford, because it is well known in the art at the time of invention for the purpose of accurately identifying the speaker of an utterance (Comerford, col. 1, lines 10-60), which is of particular value to a deaf user.

4.	Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Montgomery in view of Comerford and further in view of Saindon et al. (U.S. Patent

Application Publication 2002/0161579 A1), hereinafter referred to as Saindon.

Regarding **claim 4**, Comerford teaches everything claimed, as applied above

(see claim 1). But Comerford does not specifically teach "said subscriber terminal

includes a speech database for storing speech segments identified with certain users,

and said processor accesses said database to **identify** .... **users** according to matches

between speech segments received in real time and stored in the database. However,

the examiner contends that this concept was well known in the art, as taught by

Comerford.

In the same field of endeavor, Comerford discloses a speaker and speech

recognition system. Comerford's system includes a speaker recognition module with

stored voice patterns where a speaker's utterance is compared with existing data (Fig. 1

and 2; col. 3, lines 55-65; col. 4, lines 15-22).

Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify Montgomery by specifically providing the

features, as taught by Comerford, because it is well known in the art at the time of

invention for the purpose of accurately identifying the speaker of an utterance

(Comerford, col. 1, lines 10-60), which is of particular value to a deaf user.

Furthermore, Comerford does not specifically teach " said processor accesses said database to ... **display the identity of users**." However, the examiner contends that this concept was well known in the art, as taught by Saindon.

In the same field of endeavor, Saindon discloses a system for automated audio transcription, translation, and transfer, where the names of the speakers are displayed with the text transcription of their spoken audio (¶'s[0130] and [0012]; Figs. 2 and 4).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Montgomery by specifically providing the features, as taught by Saindon, because it is well known in the art at the time of invention for the purpose of keeping track of who spoke a particular utterance of particular value to a deaf user.

5.   Claims 3, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery in view of Dietz (U.S. Patent 6,175,820), hereinafter referred to as Dietz.

Regarding **claim 3**, Montgomery teaches everything claimed, as applied above (see claim 1), but Montgomery does not specifically teach "said processor includes a tonal and inflection analyzer that analyzes segments of speech in the buffer to modify visual characteristics of decoded speech information displayed on the display interface." However, the examiner contends that this concept was well known in the art, as taught by Dietz.

In the same field of endeavor, Dietz discloses a device for capturing voice dynamics to enhance speech-to-text. Dietz's system analyzes inflection and tone and is capable of determining some punctuation (col. 5, lines 54-60).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Montgomery by specifically providing the features, as taught by Dietz, because it is well known in the art at the time of invention for the purpose of enhancing the recognition of speech with marked up text (Dietz, col. 2, lines 39-47).

Regarding **claim 9**, Montgomery teaches everything claimed, as applied above (see claim 7), but Montgomery does not specifically teach "analyzing characteristics of incoming speech obtained by processing the speech packets and inserting punctuation in displayed textual representations thereof in response to the analysis." However, the examiner contends that this concept was well known in the art, as taught by Dietz.

In the same field of endeavor, Dietz discloses a device for capturing voice dynamics to enhance speech-to-text. Dietz's system captures speech (Fig. 4, item 402), analyzes inflection, tone, and other speech dynamics (col. 5, lines 57-60) and is capable of determining some punctuation (col. 5, lines 54-60).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Montgomery by specifically providing the features, as taught by Dietz, because it is well known in the art at the time of invention

for the purpose of enhancing the value of speech-to-text conversion by including text

marked with punctuation (Dietz, col. 2, lines 39-47).

Regarding **claim 10**, Montgomery in view of Dietz teaches everything claimed, as

applied above (see claim 9); in addition, as stated previously (see rejection of claim 9)

Dietz teaches "said characteristics include at least one of changes in tone, volume, and

inflection" (col. 5, lines 57-60).

6.   Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Montgomery in view of Comerford and further in view of Dietz.

Regarding **claim 15**, Montgomery discloses a speech translator for the deaf.

Montgomery's invention includes the following steps:

•   receiving real time speech information (p. 1, lines 27-29; speech sounds coming in

over the telephone connection);

•   converting the real time speech information into text (p. 1, lines 27-32; speech to

symbolic text).

But Montgomery does not specifically disclose "analyzing the speech information

to determine identity of a caller based on previously stored speech segments."

However, the examiner contends that this concept was well known in the art, as taught

by Comerford.

In the same field of endeavor, Comerford discloses a speaker and speech recognition system. Comerford's system includes a speaker recognition module with stored voice patterns where a speaker's utterance is compared with existing data (Fig. 1 and 2; col. 3, lines 55-65; col. 4, lines 15-22).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Montgomery by specifically providing the features, as taught by Comerford, because it is well known in the art at the time of invention for the purpose of accurately identifying the speaker of an utterance (Comerford, col. 1, lines 10-60) of particular value for a deaf user.

Furthermore, Montgomery does not teach "displaying at least one of textual representation of the speech, punctuation, obtained as a result of the analyzing step." However, the examiner contends that this concept was well known in the art, as taught by Dietz.

In the same field of endeavor, Dietz discloses a device for capturing voice dynamics to enhance speech-to-text. Dietz's system captures speech (Fig. 4, item 402), analyzes inflection, tone, and other speech dynamics (col. 5, lines 57-60) and is capable of determining some punctuation (col. 5, lines 54-60).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Montgomery by specifically providing the features, as taught by Dietz, because it is well known in the art at the time of invention for the purpose of enhancing the value of speech-to-text conversion by including text marked with punctuation (Dietz, col. 2, lines 39-47).

7.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Montgomery in view of Comerford and further in view of Iwamida (U.S. Patent

5,839,109), hereinafter referred to as Iwamida.

Regarding **claim 14**, this claim has limitations similar to claim 13 (rejected with

Montgomery in view of Comerford), and these limitations are rejected for the same

reasons. But Montgomery does not specifically teach "said processor further including

a tonal and inflection analyzer that effects analysis of speech based on characteristics

including **at least one** of gender, soft-spoken words, hard-spoken words, shouting,

laughter, **or human expression**." However, the examiner contends that this concept

was well known in the art, as taught by Iwamida.

In the same field of endeavor, Iwamida discloses a speech recognition apparatus

capable of recognizing signals other than spoken words and displaying them for viewing

(title). These sounds include a human expression (col. 4, lines 43-47, a baby crying)

and are analyzed by a time series of frequency feature parameters (col. 3, lines 50-57,

which necessarily includes tonal variations).

Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify Montgomery by specifically providing the

features, as taught by Iwamida, because it is well known in the art at the time of

invention for the purpose of presenting a broader range of sound information, which

would be of particular value to a hearing impaired person (Iwamida, col. 2, lines 13-17;

col. 6, lines 32-36).

8.   Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Montgomery in view of Comerford, Iwamida, and further in view of Dietz.

        Regarding **claim 16**, this claim has limitations that are similar to claim 15

(rejected with Montgomery in view of Comerford and Dietz), and the corresponding

limitations are rejected for the same reasons. But Montgomery does not specifically

teach "analyzing the speech information to determine ... **at least one** of gender, soft-

spoken words, hard-spoken words, shouting, laughter, **or human expression**."

However, the examiner contends that this concept was well known in the art, as taught

by Iwamida.

        In the same field of endeavor, Iwamida discloses a speech recognition apparatus

capable of recognizing signals other than spoken words and displaying them for viewing

(title). These sounds include a human expression (col. 4, lines 43-47, a baby crying)

and are analyzed by a time series of frequency feature parameters (col. 3, lines 50-57,

which necessarily includes tonal variations).

        Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify Montgomery by specifically providing the

features, as taught by Iwamida, because it is well known in the art at the time of

invention for the purpose of presenting a broader range of sound information, which

would be of particular value to a hearing impaired person (Iwamida, col. 2, lines 13-17;

col. 6, lines 32-36).

9.   Claims 5, 6, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Montgomery in view Engelke et al. (U.S. Patent 6,075,842), hereinafter referred to

as Engelke.

        Regarding **claim 5**, Montgomery teaches everything claimed, as applied above

(see claim 1). In addition, Montgomer teaches the use of a keypad for entering

commands to **control functions within the system**, including commands in the DTMF

format (p. 2, lines 8-15; Fig. 3, items 4, 6, 9, 10, 11, and 12), but Mongomery does not

specifically teach "said processor includes a detector that responds to subscriber inputs

to **activate and deactivate speech recognition**." However, the examiner contends that

this concept was well known in the art, as taught by Engelke.

        In the same field of endeavor, Engelke discloses a method for text enhanced

telephony. Engelke's method supports the extraction and display of coded text signals

and includes **a bypass circuit to disable the text processing circuitry** (Fig. 1, item

40; col. 4, lines 57-61).

        Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify Montgomery by expanding the DTMF control

functions to include the ability to enable and disable the speech processing, as taught

by Engelke, because it is well known in the art at the time of invention for the purpose of

saving power when the additional processing is not required as when a normal hearing

person is using the system.

Regarding **claim 6**, Montgomery in view of Engelke teaches everything claimed,

as applied above (see claim 5); in addition, Montgomery teaches "said detector

comprises a DTMF tone detector and said user inputs comprise DTMF tones of a

telephone" (see claim 5 rejection).

Regarding **claim 11**, Montgomery teaches everything claimed, as applied above

(see claim 7), but Montgomery does not specifically teach "responding to a command

from the subscriber to activate and deactivate speech processing." However, the

examiner contends that this concept was well known in the art, as taught by Engelke.

In the same field of endeavor, Engelke discloses a method for text enhanced

telephony. Engelke's method includes the extraction and display of coded text signals

and includes a bypass circuit to disable the text processing circuitry (Fig. 1, item 40; col.

4, lines 57-61).

Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify Montgomery by specifically providing the

features, as taught by Engelke, because it is well known in the art at the time of

invention for the purpose of saving power when the additional processing is not

required; for example, when a normal hearing person was using the system.

Citation of Pertinent Art

10.   The following prior art made of record but not relied upon is considered pertinent

to the applicant's disclosure:

- M.Bazzani, et al., ("PC-Based Telephone Communication System for Deaf-Blind

People", Proc. of IEEE GLOBECOMM, Global Telecommunication Conference,

Hollywood, Florida, Nov.1988) teach the use of a telephone interface with speech

recognition as an aid to deaf-blind people.

- Engelke et al. (U.S. Patent Application Publication 2003/0125952 A1) discloses a

voice and text transmission system using encoding and decoding over a network.

- Ortega et al. (U.S. Patent 6,332,122) disclose a transcription system for multiple

speakers using established identification.

- Sharman et al. (U.S. Patent 6,100,882) disclose a system for textual recording of

contributions to an audio conference using speech recognition.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to V. Paul Harper whose telephone number is 703 305-

4197. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Richemond Dorvil can be reached on 703 305-9645. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

1/26/2005

V. Paul Harper
Examiner
Art Unit 2654